



## DEFENSE INFORMATION SYSTEMS AGENCY

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IN REPLY  
REFER TO: Joint Interoperability Test Command (JTE)

20 Sept 12

### MEMORANDUM FOR DISTRIBUTION

SUBJECT: Extension of the Special Interoperability Test Certification of the Brocade FastIron CX Series from Release 7.2.01b to Release 7.2.02g

References: (a) DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004  
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008  
(c) through (f), see Enclosure 1

1. References (a) and (b) establish the Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.
2. The Brocade FastIron FCX648S-HPOE Release 7.2.01 is hereinafter referred to as the System Under Test (SUT). The SUT meets all of its critical interoperability requirements and is certified for joint use within the Defense Information System Network (DISN) as an Assured Services Local Area Network (ASLAN) Layer 2 access switch as a single switch or in a stacked configuration. The SUT is certified as interoperable for joint use with other ASLAN components listed on the Unified Capabilities (UC) Approved Products List (APL) with the following interfaces: 10000/1000Base SX/LX and 100/1000BaseFX. The SUT meets the critical interoperability requirements set forth in Reference (c), using test procedures derived from Reference (d). The Brocade FastIron FCX624-E, FCX624-E-ADV, FCX624-I, FCX624-I-ADV, FCX624S, FCX624S-ADV, FCX624S-HPOE, FCX624S-HPOE-ADV, FCX624S-F, FCX624S-F-ADV, FCX648-E, FCX648-E-ADV, FCX648-I, FCX648-I-ADV, FCX648S, and FCX648S-HPOE-ADV switches employ the same software and hardware as the SUT. The JITC analysis determined these systems to be functionally identical to the SUT for interoperability certification purposes and they are also certified for joint use.

The SUT is certified to support Assured Services within an ASLAN. If a component meets the minimum requirements for deployment in an ASLAN, it also meets the lesser requirements for deployment in a non-ASLAN. Non-ASLANs are "commercial grade" and provide support to Command and Control (C2) (ROUTINE only calls) (C2(R)) or non-C2 voice subscribers. When deployed in a non-ASLAN, the SUT may also be used to receive all levels of precedence, but is limited to supporting calls that are originated at ROUTINE precedence only. Non-ASLANs do not meet the availability or redundancy requirements for C2 or Special C2 users and therefore are not authorized to support precedence calls originated above ROUTINE.

Testing of the SUT did not include video services or data applications; however, simulated preferred data, best effort data, voice, and video traffic was generated during testing to determine

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the SUT's ability to prioritize and properly queue voice media and signaling traffic. No other configurations, features, or functions, except those cited within this document, are certified by the JITC. This certification expires upon changes that could affect interoperability, but no later than three years from the date the original Unified Capabilities (UC) Approved Products List (APL) memorandum (2 May 2011).

3. The extension of this certification is based on Desktop Review (DTR) 2. The original certification is based on interoperability testing conducted by JITC, review of the vendor's Letters of Compliance (LoC), and Defense Information Systems Agency (DISA) Certifying Authority (CA) Recommendation, documented in Reference (e). Interoperability testing was conducted by JITC, Fort Huachuca, Arizona, from 3 January through 4 March 2011. Review of the vendor's LoC was completed on 19 March 2011. The CA provided a positive Recommendation on 4 April 2011 based on the security testing completed by DISA-led IA test teams and published in a separate report, Reference (f). This DTR changes the version from 7.2.01b to 7.2.02g and includes patches that add MD5 authentication support for the Simple Network Time Protocol (SNTP) clients on the Layer 2 switches communicating with Network Time Protocol (NTP) servers, which enhances the security posture of the system. JITC analysis determined that the updates associated with this DTR will have no impact on the interoperability certification features and functionality. Therefore, JITC approves this DTR. There were no new IA vulnerabilities introduced; therefore, the DISA CA approval date of 4 April 2011 remains the same.

4. Table 1 provides a Unified Capabilities Approved Products List (UC APL) product summary. The interface, Capability Requirements (CR) and Functional Requirements (FR), and component status of the SUT is listed in Tables 2 and 3. The threshold Capability/Functional requirements for ASLAN components are established by Section 5.3.a of Reference (c) and were used to evaluate the interoperability of the SUT.

**Table 1. UC APL Product Summary**

Component (See note.)	Release	Sub- Component	Certification Applicability		
			Core	Distribution	Access
Brocade FastIron FCX648S-HPOE	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624-E	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624-E-ADV	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624-I	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624-I-ADV	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624S	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624S-ADV	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624S-HPOE	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624S-HPOE-ADV	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624S-F	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX624S-F-ADV	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX648-E	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX648-E-ADV	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX648-I	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX648-I-ADV	7.2.02g	N/A	No	No	Yes
Brocade FastIron FCX648S	7.2.02g	N/A	No	No	Yes

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**Table 1. UC APL Product Summary (continued)**

Component (See note.)	Release	Sub-Component	Certification Applicability		
			Core	Distribution	Access
Brocade FastIron FCX648S-HPOE-ADV	7.2.02g	N/A	No	No	Yes
<b>NOTE:</b> The JITC tested the Brocade FastIron FCX648S-HPOE, but is certifying the other listed products because they employ the same software and similar hardware as the SUT.					
<b>LEGEND:</b>					
APL	Approved Products List	N/A	Not Applicable		
HPOE	High Power over Internet	UC	Unified Capabilities		
JITC	Joint Interoperability Test Command				

**Table 2. SUT Interface Interoperability Status**

Interface	Applicability	UCR 2008, Change 2 Reference	Threshold CR/FR Requirements (See note 1.)	Status	Remarks
	Access				
10Base-X	C <sup>2</sup>	5.3.1.3.1	1-6	Not Tested	See note 3.
100Base-X	C <sup>2</sup>	5.3.1.3.1	1-6	Met	
1000Base-X	C <sup>2</sup>	5.3.1.3.1	1-6	Met	
10000Base-X	C	5.3.1.3.1	1-6	Met	
802.11a	C	5.3.1.3.1/5.3.1.7.2	1-6	Not Tested	See note 3.
802.11b	C	5.3.1.3.1/5.3.1.7.2	1-6	Not Tested	See note 3.
802.11g	C	5.3.1.3.1/5.3.1.7.2	1-6	Not Tested	See note 3.
802.11n	C	5.3.1.3.1/5.3.1.7.2	1-6	Not Tested	See note 3.
802.16	C	5.3.1.3.1/5.3.1.7.2	1-6	Not Tested	See note 3.

**NOTES:**

1. The SUT high-level CR and FR ID numbers depicted in the Threshold CRs/FRs column can be cross-referenced in Table 2. These high-level CR/FR requirements refer to a detailed list of requirements provided in Reference (e), Enclosure 3.
2. Access products must minimally support one of the following standards: 823.3i (10BaseT), 820.3j (10BaseF), 802.3u (100BaseTX/FX), 802.3z (1000BaseX), or 802.3ab (1000BaseT). Other rates and standards may be provided as conditional interfaces.
3. The SUT does not support this interface. This interface is not required for an access switch.

**LEGEND:**

C	Conditional	ID	Identification
CR	Capability Requirement	SUT	System Under Test
FR	Functional Requirement	UCR	Unified Capabilities Requirements

Table 3. SUT Capability Requirements and Functional Requirements Status

CR/FR ID	Capability/ Function	Applicability (See note 1.)	UCR Reference	Status	Remarks
1	<b>General Performance Parameters</b>				
	Performance Parameters	Required	5.3.1.3	Met	
	Port Interface Rates	Required	5.3.1.3.1	Met	
	Port Parameter Requirements	Required	5.3.1.3.2	Met	
	Class of Service Markings	Required	5.3.1.3.3	Met	
	VLAN Capabilities	Required	5.3.1.3.4	Met	
	Protocols	Required	5.3.1.3.5	Met	
	QoS Features	Required	5.3.1.3.6	Met	
	Network Monitoring	Required	5.3.1.3.7	Met	
	Security	Required	5.3.1.3.8	Met	See note 2.

**Table 3. SUT CRs and FRs Status (continued)**

CR/FR ID	Capability/ Function	Applicability (See note 1.)	UCR Reference	Status	Remarks
2	E2E Performance Requirements				
	Voice Services	Required	5.3.1.4.1	Met	
	Video services	Required	5.3.1.4.2	Met	
	Data services	Required	5.3.1.4.3	Met	
3	NM Requirements				
	Configuration Control	Required	5.3.1.6.1	Met	
	Operational Changes	Required	5.3.1.6.2	Met	
	Performance Monitoring	Required	5.3.1.6.3	Met	
	Alarms	Required	5.3.1.6.4	Met	
	Reporting	Required	5.3.1.6.5	Met	
4	Engineering Requirements				
	Physical Media	Required	5.3.1.7.1	Site requirement	
	Traffic Engineering	Required	5.3.1.7.3	Site requirement	Configured with four queues, each set to 25% of total bandwidth.
	Availability	Required	5.3.1.7.6	Partially driven by topology	100% availability during test.
	Redundancy	Required	5.3.1.7.7	Met	
5	MPLS				
	MPLS Requirements	Conditional	5.3.1.8.4.1	Not Tested	See note 3.
	MPLS VPN Augmentation to VLANs	Conditional	5.3.1.8.4.2	Not Tested	See note 3.
6	IPv6 Requirements				
	Product Requirements	Required	5.3.5.4	Met	

NOTES:

1. The annotation of ‘required’ refers to a high-level requirement category. The applicability of each sub-requirement is provided in Reference (e), Enclosure 3. The system under test does not need to provide conditional requirements. However, if a capability is provided, it must function according to the specified requirements.

2. Refers to IA requirements for UCR 2008, Change 2, Section 5.4. Detailed IA requirements are included in Reference (f).

3. MPLS is conditional for an access layer switch.

LEGEND:

CR

Capability Requirement

E2E

End-to-End

FR

Functional Requirement

IA

Information Assurance

ID

Identification

IPv6

Internet Protocol version 6

MPLS

Multiprotocol Label Switching

NM

Network Management

QoS

Quality of Service

SUT

System Under Test

UCR

Unified Capabilities Requirements

VLAN

Virtual Local Area Network

VPN

Virtual Private Network

5. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at <https://stp.fhu.disa.mil>. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at <http://jit.fhu.disa.mil> (NIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI)

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website at <http://jitc.fhu.disa.mil/tssi>. All associated data is available on the Defense Information Systems Agency Unified Capability Coordination Office (UCCO) website located at <http://www.disa.mil/ucco/>.

6. The JITC point of contact is Mr. Edward Mellon, DSN 879-5159, commercial (520) 538-5159, FAX DSN 879-4347, or e-mail to [edward.a.mellon.civ@mail.mil](mailto:edward.a.mellon.civ@mail.mil). JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The Tracking Number for the SUT is 1030603.

FOR THE COMMANDER:

1 Enclosure a/s

  
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UCCO

## **ADDITIONAL REFERENCES**

- (c) Office of the Assistant Secretary of Defense, "Department of Defense Unified Capabilities Requirements 2008, Change 1," 22 January 2010
- (d) Department of Defense Instruction 8100.03, "Department of Defense (DoD) Voice Networks," 16 January 2004
- (e) Joint Interoperability Test Command, Memo, JTE, "Special Interoperability Test Certification of the Brocade FastIron CX Series Release 7.2.01," 27 April 2011
- (f) Joint Interoperability Test Command, "Information Assurance (IA) Assessment of Brocade FastIron CX Series (FCX)648S High Power Over Ethernet (HPOE) Release (Rel.) 7.2.01 (Tracking Number 1030603)," 4 April 2011